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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,260	07/08/2003	Chi-Kong Tse	007198-532	5968

21839   7590   09/25/2007
BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER
POLTORAK, PIOTR

ART UNIT	PAPER NUMBER
2134	

NOTIFICATION DATE	DELIVERY MODE
09/25/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com
debra.hawkins@bipc.com

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/614,260	TSE ET AL.
	Examiner	**Art Unit**	
	Peter Poltorak	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>03 July 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-34</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,8,9,11,13,16,18,23,25,26,30 and 33</u> is/are rejected.

7)☒ Claim(s) <u>2-7,10,12,14-15,17,19-22,24,27-29,31-32 and 34</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____ .

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

Applicant's amendment received on 7/03/07 has been entered.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Amendment

In light of applicant's arguments and amendments the objection to Oath/Declaration and to claim 25 as well as the rejections 35 USC § 101 and 112 are withdrawn.

In response to previous 35 USC § 103 rejection, cited in the previous Office Action, applicant argues that "Cong publication is completely silent as to any modification of the traditional frequency hopping communication system to arrive at a non-coherent chaotic system". In order to underline the argument, applicant appears to suggest that Cong's reference essentially is a well-known coherent method which requires the same sequences to be reproduced at a receiver as used in a corresponding transmitter. The final (relevant to claim language) conclusion, that applicant derives is that applicant's invention is unlike coherent methods by generating a chaotic sequence for one bit period.

Although the examiner appreciates applicant's analysis, the examiner points out that the terms such as "non-coherent" or "coherent" are not used in the claim language. Thus, the real question is whether generating a chaotic sequence for one bit period is a

feature unique to (only) non-coherent methods and, more importantly, whether indeed is not disclosed in Cong's invention.

On pg. 15, applicant offers "the amount of time required to transmit a logical one or a logical zero" as a definition of the term "bit period". Thus, in a computer system employing a typical microprocessor, the "bit period" corresponds to time required for the system to operate on a binary bit value, which essentially is equivalent to a one clock cycle.

Cong does not discuss any specialized microprocessor implementation to achieve Cong's invention. Thus, as it is clear from Cong's disclosure on pg. 1433 and 1435 in particular (also, note Fig. 1), a generated chaotic signal would require a one clock cycle and, as a result it reads on "a chaotic sequence for one bit period."

As a result, applicant's arguments are not found persuasive.

Claims 1-34 have been examined.

Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 8-9, 11, 13, 16, 18, 23, 25-26, 30 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cong (Ling Cong and Sun Songgeng, "Chaotic Frequency

Hopping Sequences", IEEE Transacions on communication s, Vol. 46, No. 11, Nov. 1998).

Cong discloses frequency hopping system for jamming prevention (Cong, 1433, "Introduction").

As per claims 1, 8-9, 13, 18, 25-26 and 30, Cong discloses receiving the value k in a system for transmitting and receiving a digital message having N digits, each of said N digits having any one of M values, and wherein each of said M values k corresponds with a $k.sup.th$-chaotic signal generator having chaotic characteristic value associating with a chaotic algorithm to generate a chaotic signal, said chaotic signal being transmitted within a bit period comprising a series of number generated by the step of: a) inputting a random number to the chaotic algorithm to generate a first chaotic number; b) inputting the first chaotic number to the chaotic algorithm to generate a second chaotic number; and c) repeating step b) using the second chaotic number as the first chaotic number until all numbers to be transmitted within the bit period are generated, including the step of receiving the chaotic signal at a receiver storing the chaotic characteristic values of all of the chaotic signal generators and a demodulating algorithm, and demodulating the chaotic signal to generate the transmitted value k (Cong pg. 1433-1435, in particular "Digital Hardware Implementation" including Fig. 1).

Demodulating the chaotic signal by a receiver to generate the transmitted value k is implicit. The demodulating process on the receiver side is an inverse of the process implemented by the sender and these two must correspond to each other, or there would be no reason for communicating values from a sender to a receiver because the

values would be meaningless to the receiver. Also, a signal received by a receiver and

act upon reads on a storing the signal by a receiver. In order to process the signal, the

receiver must store the signal at least in a processor and memory.

As per claims 11, 16, 23 and 33, Cong discloses two values: 0 and 1 (Cong, pg.

1434, "Digital Hardware Implementation"). However, the examiner points out that even

if Cong did not disclose each digit has a value of either 0 or 1, it would have been

obvious to one of ordinary skill in the art at the time of applicant's invention to

incorporate such a variation given the fact that computers operate using binary numbers

(0/1).

Conclusion

Claims 2-7, 10, 12, 14-15, 17, 19-22, 24, 27-29, 31-32 and 34 are objected to as

being dependent upon a rejected base claim, but would be allowable if rewritten in

independent form including all of the limitations of the base claim and any intervening

claims.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571) 272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).
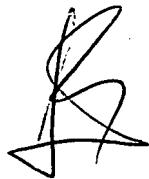
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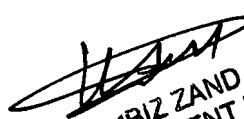
KAMBIZ ZAND
SUPERVISORY PATENT EXAMINER

	Index of Claims	Application/Control No. 10614260	Applicant(s)/Patent Under Reexamination TSE ET AL.
		Examiner Poltorak, Peter	Art Unit 2134

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/14/2007								
	1	✓								
	2	O								
	3	O								
	4	O								
	5	O								
	6	O								
	7	O								
	8	✓								
	9	✓								
	10	O								
	11	✓								
	12	O								
	13	✓								
	14	O								
	15	O								
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	25	✓								
	26	✓								
	27	O								
	28	O								
	29	O								
	30	✓								
	31	O								
	32	O								
	33	✓								
	34	O								